

REMARKS / ARGUMENTS**1. Status of Application**

This application includes claims 1-13. Claims 1-13 were rejected in the Examiner's office action mailed December 31, 2003.

2. Discussion**a. Claim Rejections – Claims 1-8 and 10-13**

Claims 1-8 and 10-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,404,119 to Hidaka et al. ("Hidaka") in view of U.S. Patent No. 3,840,773 to Hart et al. ("Hart"). Applicants respectfully traverse these rejections.

As noted by the Examiner, Hidaka discloses a cathode ray tube having a first neck portion 8a having a smaller diameter than a second neck portion 8b. Office action at 2. However, the Examiner also states that "Hidaka discloses in figures 1 and 2, a projection tube." *Id.* The applicants note that a projection tube, as understood by persons of skill in the art and disclosed in the specification of the present application, uses a single-beam electron gun, does not use a shadow mask, and projects images on a screen. *See, e.g.*, application at Figs. 1, 4-6; specification at [0029]. Applicants respectfully point out that Hidaka does not disclose a projection tube. Rather, Hidaka discloses an in-line type electron gun 10 which emits three beams, a shadow mask 4 which selects the electron beams, and a tube panel 3 on which images are displayed. Hidaka, Fig. 1; col. 8, lines 13-25. There is no teaching or suggestion to use a single beam electron gun in Hidaka, which teaches to design the tube envelope based on the distances between the center beam and the two side beams. *Id.* Accordingly, Hidaka teaches

away from the use of the disclosed structure in a single beam tube such as a projection tube. For these reasons, applicant submits that all the currently-pending claims distinguish over Hidaka as well as any combination of references that include Hidaka.

With respect to Hart, the Examiner states that the disclosed electron gun emits a single electron beam. Office action at 3. Applicants point out, however, that Hart discloses a beam penetration or “penetron” type of cathode ray tube, in which different phosphor layers 41 are activated by different screen voltages, and the images are displayed on the tube panel 62. Hart at Abstract; Figs. 1, 2; col. 5, lines 1-31. Accordingly, like Hidaka, Hart does not disclose or suggest a projection tube. Applicants note that Hart specifically teaches that the use of multiple electron guns in the tube causing arcing, and that the preferred embodiment is “a single electron beam rather than a plurality of electron beams.” Hart, col. 1, lines 42-59; col. 3, lines 30-32. Accordingly, Hart teaches away from the use of the disclosed structure in a multiple-bem beam tube such as that disclosed in Hidaka. For these reasons, applicant submits that all the currently-pending claims distinguish over Hart as well as any combination of references that include Hart.

Applicant thus submits that the Examiner has failed to cite a combination of prior art which discloses each and every claim limitation, which thus renders the present rejection an impermissible “obvious to try” rejection. M.P.E.P. §§ 2143.03, 2144, 2145 X.B. Nor does the Examiner cite to any teaching or suggestion in Hidaka, Hart, or anywhere else in the prior art, to optimize the neck diameters of a projection-type cathode ray tube. *Id.*, §§ 2143.01, 2143. As such, Applicant submits that the present rejection of claims 1-8 and 10-13 would also fail to meet the Examiner’s burden of producing a case of *prima facie* obviousness. *Id.*, §§ 2142, 2143.

Moreover, both Hidaka and Hart teach away from combination with each other by

including specific teachings that conflict with those of the other reference. As noted above, Hidaka teaches to design a tube envelope based on the positions of a three-beam electron gun, while Hart teaches to use only a single electron beam. Thus, based upon these two references, a person of ordinary skill in the art would not be inclined to use the teachings of Hidaka to design a tube for the electron gun of Hart, because Hidaka only provides design guidance for a tube enveloping a three-beam gun. Conversely, such a person would not be inclined to use the electron gun of Hart in the tube of Hidaka, as Hart warns of problems when using multiple beams in the tube. Consequently, Applicants submit that none of claims 1-8 or 10-13 could be obvious over Hidaka in view of Hart, as such a combination would appear to be impossible or inoperative.

b. Claim Rejections – Claim 9

With respect to claim 9, the Examiner rejected this claims over a combination of Hidaka and Hart (*i.e.*, for the same reasons that were cited for the rejection of claims 1-8 and 10-13 above) and further in view of U.S. Patent No. 6,133,685 to Konda et al. Applicants submit that claim 9 is patentably non-obvious for all the reasons Applicants stated above in connection with the non-obviousness of claim 1-8 and 10-13.

c. Advantage of the Preferred Embodiment

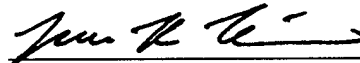
Applicants also note that the preferred embodiment has the advantageous effect that the electron beam does not impinge on the inner wall of the neck portion of the tube.

4. Conclusion

It is respectfully submitted that the present application as amended is in condition for allowance and prompt notification thereof is requested. If the prosecution of this application can be advanced by a telephone conference, the Examiner is requested to call the undersigned at (212) 530-5363.

Respectfully submitted,

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